

Application No. 10/679,536
Amendment dated May 29, 2007
Response to Office Action dated March 19, 2007

Remarks/Arguments:

STATUS OF CLAIMS

Claim 1 has been canceled; claims 2, 4, and 5 have been amended; and claims 6 and 7 have been added, such that claims 2-7 are currently pending in the application.

REMARKS

In the Office Action, the Examiner:

objected to misnumbered claims 5 and 6, and renumbered them to be claims 4 and 5;

rejected claims 1 and 3 under 35 U.S.C. §112, second paragraph, as being indefinite; and

rejected claims 2-5 under 35 U.S.C. §102(e) as being anticipated by U.S. Pat. App. Pub. No. 20060122839 ("Li-Chun").

1. Objections to Misnumbering of Claims 5 and 6.

The Applicant acknowledges that claims 5 and 6 were misnumbered as originally filed, and that the Examiner has renumbered these claims to be claims 4 and 5.

2. Rejections of Claims 1 and 3 Under 35 U.S.C. §112, Second Paragraph.

The Examiner rejected claim 1 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly identify and distinctly claim the subject matter which the Applicant regards as the invention. More specifically, the Examiner asserted that claim 1 was an omnibus-type claim. According to MPEP §§ 706.03(d) and 2173.05(r), an omnibus claim reads as follows: "A device substantially as shown and described". Clearly, claim 1 was not in this form. Instead, claim 1 was in well-accepted form including a preamble and an element which clearly identifies what is included and excluded by the claim, and therefore identifies and distinctly claims the subject matter which the Applicant regards as the invention. The point is moot, however, as claim 1 has been canceled to

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make room for new independent claim 6.

The Examiner has rejected claim 3 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly identify and distinctly claim the subject matter which the Applicant regards as the invention. More specifically, the Examiner has asserted that claim 3 is incomplete for omitting essential structural cooperative elements, such omission amounting to a gap between the necessary structural connections. The Examiner has asserted that the omitted structural cooperative relationship is "the step of matching the tags in order to identify the file", and that this step needs to be cited to complete the claim.

The Applicant respectfully disagrees. Claim 3 recites a method of "identifying and comparing sound files". "Identifying" the sound files involves generating the "identifying tags", as is required steps (c) and (f). This is also clear from independent claims 2 and 6. "Comparing" the sound files involves comparing the points on which the tags are based, as is required by step (g). Thus, claim 3 is complete as originally filed. The Examiner's asserted missing step is not part of the invention and has no support in the specification.

3. State of the Law with Respect to 35 U.S.C. §102(e).

35 U.S.C. §102(e) states, in relevant part, that "[a] person shall be entitled to a patent unless the invention was described in an application for patent, published under section §122(b), by another filed in the United States before the invention by the applicant for patent..."

For rejections based on anticipation under §102, there is no question of obviousness or modification of the reference, rather a single reference must teach each, every, and all aspects of the claimed invention either explicitly or impliedly, and any feature not directly taught must be inherently present. MPEP §§706.02 and 2131 citing *Verdegaal Bros. v. Union Oil Co. Of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

"The identical invention must be shown in as complete detail as is contained in the...claim." MPEP §§706.02 and 2131 citing *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Furthermore, a prior art device can perform all of the functions of a claimed apparatus and yet not anticipate the claimed apparatus if the claimed apparatus and the prior art device are structurally distinguishable. MPEP §2114 citing *In re Robertson*, 49 USPQ2d 1949, 1951 (Fed. Cir. 1999). Thus, a rejection under 35 U.S.C. §102 is overcome by amending the claims to patentably distinguish over the prior art and/or persuasively arguing that the claims are patentably distinguishable from the cited prior art reference. MPEP §706.02(b).

4. Rejections of Claims 2-5 under 35 U.S.C. §102(e).

The Examiner has rejected claims 2-5 under 35 U.S.C. §102(e) over Li-Chun. Li-Chun discloses a system and method for recognizing an audio sample and locating an audio file, from within a database of audio files, that most closely matches the audio sample. Each audio file is represented by a set of landmark timepoints and associated fingerprints, wherein the fingerprints represent features of the audio sample at or near the landmark timepoints. To perform recognition, landmarks and fingerprints are computed for an unknown audio sample and used to retrieve audio files having matching fingerprints. For each audio file containing matching fingerprints, its landmarks are compared with those of the audio sample until the audio file is identified having the best match to the audio sample. Li-Chun further discloses:

Examples of fingerprints include spectral slice fingerprints, multi-slice fingerprints, LPC coefficients, spectral coefficients, and frequency components of spectrogram peaks. Li Chun, para. [0022] (emphasis added).

To generate spectral slice fingerprints, a frequency analysis is performed in the neighborhood of each landmark timepoint to extract

the top several spectral peaks. A simple fingerprint value is just the single frequency value of the strongest spectral peak...The number of false positives can be reduced by using fingerprints consisting of a function of the two or three strongest spectral peaks. Li Chun, para. [0057] (emphasis added).

In one implementation...landmarks and fingerprints are computed from a spectrogram of the sound recording. A spectrogram is a time-frequency analysis of a sound recording in which windowed and overlapped frames of sound samples are spectrally analyzed, typically using a Fast Fourier Transform (FFT). As before, a preferred embodiment uses a sampling rate of 8000 Hz, an FFT frame size of 1024 samples, and a stride of 64 samples for each time slice. An example of a spectrogram is shown in FIG. 7A. Time is on the horizontal axis, and frequency is on the vertical axis... For example, time and frequency coordinates of each peak are obtained, the time taken to be the landmark, and the frequency used to compute the corresponding fingerprint." Li-Chun, para. [0063] (emphasis added).

By contrast, the present application discloses:

[S]ound can be converted from the standard time domain to its frequency domain...Thus, whereas in the time domain the sound is measured in power versus time, in the frequency domain the sound is measured in amplitude versus frequency. Spec., para. [0014].

The sound file is first converted to a series of points corresponding to power (measured in decibels) versus time (measured in

seconds)... The points are then translated from the time domain into the frequency domain using a Fast Fourier Transformation... This translation yields a set of points that represent power versus frequency rather than power versus time... Next, a number of these points from specific frequencies are selected... The resulting set of points is the identifying tag... Spec., para. [0016].

Generally, a graph of the time domain indicates how a signal changes over time, whereas a graph of the frequency domain indicates how much of the signal lies within each given frequency band over a range of frequencies. Li-Chun's method relies solely on identifying points in the time domain, i.e., frequencies at specific times: (seconds, Hertz). By contrast, the present invention relies on identifying points in the frequency domain, i.e., amplitudes at specific frequencies: (decibels, Hertz). In fact, in one embodiment, the present invention arrives at its identifying points by first identifying a series of points in the time domain, e.g., (seconds, decibels), and then translating these points into the frequency domain. As stated in the specification, "This translation has the beneficial effect of minimizing any oddities in the sound file, such as, for example, white noise, static, poor quality, or gaps, that might otherwise make ideally identical sound files appear substantially different, particularly to an automated searching or cataloging mechanism." Spec., para. [0016].

Furthermore, Li-Chun samples only at spectral peaks (see emphasized language in quotes above), while the present invention samples at pre-determined frequencies, e.g., 10Hz, 100Hz, 1000Hz, regardless of whether these frequencies correspond to peaks. As stated in the specification, for example, "Preferably, the same specific frequencies are used for all sound files in order to maintain a desired level of standardization in implementing the method." Spec., para. [0016]. Clearly, the chosen frequencies will not correspond to peaks in all or even many different sound files.

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For these and other reasons, the Applicant respectfully asserts that the claims are clearly patentably distinguished from the cited prior art reference and therefore the rejections have been overcome.

5. New Claims.

New claims 6 and 7 have been added and which include the above-discussed patentable limitations.

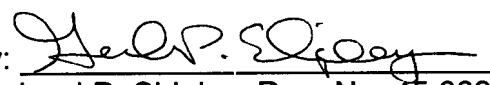
6. Conclusion.

In light of the foregoing, the Applicant respectfully asserts that all claims currently pending in the application are in condition for allowance, and respectfully requests a corresponding Notice of Allowance.

In the event of any questions, the Examiner is urged to contact the undersigned.

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Respectfully Submitted,

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